

# *In Praise* of Sewage Lagoons Smelly but birdy!

Ask someone on the street to describe the activity of watching birds, and he or she will probably paint a picture of men and women in floppy hats peering through binoculars to observe songbirds in the forest. Even novice birders tend to associate our pastime more with warblers and the woods than, say, shorebirds on mudflats. The many other habitats in which birds thrive are generally not the first we contemplate. Take sewage lagoons, for example.

Depending on where you live, as well as how long you have been a bird watcher, the last place you might think to go birding is at a sewage lagoon. You probably know enough to visit as many different habitats as possible in order to see the widest range of species. And perhaps you are fortunate to live somewhere that affords easy access to diverse habitats, not just fields and forests. But not everyone is so lucky.

Which is why I like sewage lagoons.

I enjoy watching birds of every kind, but I especially like to watch and study shorebirds. Unfortunately, my local possibilities for finding appropriate habitat are limited, and depending on weather conditions, they can often be scarce. At times, mudflats can be so few and far between that many shorebirds forgo local appearances en route to their breeding or wintering grounds. This can mean having to travel far afield in order to see them. Sewage lagoons, however, almost invariably provide sufficient habitat and ample food resources to attract migrating shorebirds, often in great numbers.

## **What Is a Sewage Lagoon?**

Sewage lagoons are wastewater treatment facilities, often

located outside rural communities. They are also known as sewage oxidation ponds and waste stabilization ponds. When you flush your toilet in a small town, a sewage lagoon is where the water and its contents ultimately end up.

While a small community may employ a single lagoon for its wastewater treatment, most towns operate a system of ponds that work together to cleanse wastewater of most of its harmful materials, including disease-causing bacteria. Each pond is essentially a huge receptacle for the temporary storage of wastewater and sewage. Because these lagoons are frequently quite large and often located in agricultural areas, they are like oases for migrant shorebirds, which eagerly drop down to forage in their midst.

## **How Do They Work?**

Sewage lagoons are engineered to allow natural processes of decomposition to purify the water and sewage they contain. An initial step in the overall process is to let the contents stand undisturbed for periods ranging from 45 to 75 days. During this time, solids will settle to the bottom of the pond, where they undergo anaerobic (“without oxygen”) breakdown. Other materials, both organic and inorganic, are degraded by the combined action of various bacteria and algae in the water, using dissolved oxygen and the energy from sunlight.

Oxygen is necessary for the bacteria to effectively remove solid organic matter and other materials from the wastewater. The combined effects of wind, solar heat, and fermentation ensure that the water in the lagoon is well mixed, but some treatment systems facilitate oxygenation by aerating the lagoon mechanically. When functioning optimally, sewage lagoons become

complex ecosystems where numerous species of filamentous fungi, yeast, and protozoa also flourish.

#### How Do Shorebirds Benefit?

Raw sewage and wastewater ultimately decompose to create nutrient-rich mixtures that support a wide variety of insects and invertebrates. These in turn provide a smorgasbord of food for hungry shorebirds needing to replenish and build up fat reserves. When the water of a lagoon is drawn down, it creates conditions similar to those found in marshes and tidal flats, where countless organisms are exposed for shorebirds to feast on. When the timing coincides with the peak of shorebird migration, birders can expect to find huge concentrations of sandpipers, plovers, and waders of many species. Often, these include significant rarities and otherwise hard-to-find species.

### Summary

Nothing compares with strolling through the woods in spring, when songbirds typically abound. I like to visit marshes and wander through meadows, to hike up hills and traipse along beaches. I want to see every kind of bird I can. If you feel the same, I urge you to make sewage lagoons a part of your birding experience. You never know what you might find there. Randy Horvath

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